APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,925	08/04/2003	Chao-Hsin Lu	LUCH3008/EM	3793

23364	7590	11/01/2006	EXAMINER

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EXAMINER	WANG, TED M

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 August 2003</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,13 and 19* is/are rejected.

7)☒ Claim(s) *2, 7-12,14-18 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The listing of references in the specification is not a proper information disclosure

statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other

information submitted for consideration by the Office, and MPEP § 609.04(a) states,

"the list may not be incorporated into the specification but must be submitted in a

separate paper." Therefore, unless the references have been cited by the examiner on

form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

3.   Claims 1, 3-6, 13 and 19 are rejected under 35 U.S.C. 102(e) as being

anticipated by Yoo et al. (US 6,959,058).

❑   With regard claim 1, Yoo discloses a data recovery system, comprising:

an oversampler (Fig.1 element 110), which oversamples an input signal

(Fig.1 S_DIN and column 3 lines 10-11) for n times (Fig.1 element 110 with n = 3

and column 3 line 10) and thus generates a plurality of oversampled signals

(Fig.1 element 110 output and column 3 lines 16-24), where n is an integer;

a phase detection circuit (Fig.1 elements 120, 130 and 140, where 120 is

used to detect the transitions of the oversampled signal having the same

detection structure (Fig.2 element 200) as that of the phase detector circuit as

specified in the instant application Fig.3 element 21 and page 6 lines 5-7), which

receives the oversampled signals (Fig.2 element 200 input D0-D12), and outputs

a phase signal (Fig.2 element 140 output STATE[0,1] and column 3 lines 46-52)

to detect the oversampled signal transition according to transitions between the

oversampled signals (column 3 lines 27-52); and

a data pick circuit (Fig.1 and 8 element 150 and column 3 lines 38-64),

which groups the oversampled signals into n groups and picks one of the groups

as an output data according to the phase signal (Fig.9 and column 10 line 55 –

column 11 line 10, where the oversampled signal being grouped into n = 3

groups, D1 and D4 and D7 and D10, D0 and D3 and D6 and D9, and D2 and D5

and D8 and D11, based on the phase signal, STATE[0,1] = 00, 10, 01,

respectively), wherein the output data is m-bit and m is an integer (Fig.1 element

150 output with m=4).

❏ With regard claim 3, Yoo further discloses wherein the phase detection circuit

comprises:

a transition detector (Fig.1 element 120 and Fig.2 element 200), which

detects the transitions between the oversampled signals (Fig.3a-3c, column 3

lines 27-37, column 5 lines 38-55, column 6 lines 6-22 and column 6 lines 40-51);
and

a tally (Fig.1 elements 130, 140 and Fig.2 element 280 and column 3 lines
38-52), which groups the plurality of transitions into n groups (Fig.2 element 280,
Fig.4 element 130 and Fig.5 element 500, 510 and 520, where n = 3), and
outputs the phase signal corresponding to one of the groups with the maximum
transition number (Fig.5 element 502 and 504, 512 and 514, and 522 and 524,
and column 8 lines 33-64, where the maximum transition number is N, for
example N=5 (column 8 lines 33-35)).

In Yoo's reference, column 8, lines 33-45, it specifically teaches that a
determination is made as to whether the number of generations of the first
transition signal NEXT (one of the n groups) is equal to N, for example, 5 (step
504). When the number of generations of the first transition signal NEXT is five
(affirmative determination in step 504), the first transition accumulation signal
NEXTA is output (step 506) and the transition accumulator 130 is reset by
generating the reset signal R_ACC (step 508).

It is clear that the number, N, is the maximum transition number; since
whenever the number of generations of the first transition signal NEXT is
reached to N, the first transition accumulation signal NEXTA is outputted and
the transition accumulator (130) is reset and new process begins (column 8
lines 57-64).

The process of generating the second and third transition accumulation signals PREVA and MAINA are similar to the processes for generating NEXTA (column 8 lines 46-56) as addressed in the above paragraph.

☐ With regard claim 4, Yoo further discloses wherein the transition detector comprises a plurality of XOR gates to perform XOR operations to each of the oversampled signals and the adjacent oversampled signal (Fig.2 element 200 and column 4 lines 7-15).

☐ With regard claim 5, Yoo further discloses wherein the tally comprises: n adders (or accumulators), which count the number of transition (Fig.5 elements 502, 512 and 522, where n = 3, and column 8 lines 3-32 and 46-56); and a maximum selector (Fig.5 elements 506, 516 and 526, Fig.1 element 140 and column 3 lines 46-52), which outputs the phase signal according to the maximum number of transition (Fig.5 element 504, 514 and 524, and column 8 lines 33-64, where the maximum transition number is N, for example N=5 (column 8 lines 33-35)).

☐ With regard claim 6, Yoo further discloses wherein the data pick circuit is a multiplexer (Fig.1 element 150, Fig.8 element 805, 815, 825 and 835, and column 10 lines 21-33).

☐ With regard claim 13, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

☐ With regard claim 19, which is a method claim related to claim 1, all limitation is contained in claim 1. The explanation of all the limitation is already addressed in the above paragraph.

Allowable Subject Matter

4.   Claims 2, 7-12, 14-18 and 20 are objected to as being dependent upon an objected claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5.   Reference(s) US 6,611,219 and US 6,556,640 are cited because they are put pertinent to the oversampling data recovery circuitry. However, none of references teach detailed connection as recited in claim.

6.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).
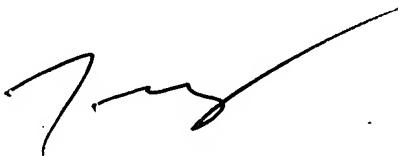
Ted M Wang
Examiner
Art Unit 2611

Ted M. Wang